AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An initializing method for a Very high bit rate Digital Subscriber Line (VDSL) between two stations, comprising:

(a) handshaking basic, required information between the two stations in a first tone space mode having a first frequency, and for determining whether or not each of the two stations supports a second tone space mode having a second frequency that is different from the first frequency;

(b) switching the first tone space mode to the second tone space mode by detecting a loop in each of the two stations for adjusting a tone space when it is determined in step (a) that each of the two stations supports the second tone space mode; and

(c) exchanging information actually needed in data communications between the two stations in the second tone space mode when switched to the second tone space mode in step (b) for an actual initialization of the VDSL between the two stations.

2. (Currently Amended) ~~The method of claim 1,~~ An initializing method for a Very high bit rate Digital Subscriber Line (VDSL) between two stations, comprising:

(a) handshaking basic, required information between the two stations in a first tone space mode, and for determining whether or not each of the two stations supports a second tone space mode;

(b) switching the first tone space mode to the second tone space mode by detecting a loop in each of the two stations for adjusting a tone space when it is

determined in step (a) that each of the two stations supports the second tone space mode; and

(c) exchanging information actually needed in data communications between the two stations in the second tone space mode when switched to the second tone space mode in step (b) for an actual initialization[[.]],

wherein the step (b) comprises:

(b1) each station receiving a signal from the other station, using signals substantially identical to signals used in step (c), and at substantially the same time detecting the loop; and

(b2) each station performing final negotiation for determining whether or not step (c) is to be performed in the second tone space mode, according to the result of the loop detection.

3. (Previously Presented) The method of claim 2, wherein in step (b1), each station obtains the result of the loop detection based on the level of Power Spectral Density (PSD) of a signal which is received in a high frequency band transmitted from the other station.

4. (Original) The method of claim 2, wherein the step (b) further comprises:

(b3) each station switching from the first tone space mode to the second tone space mode in an idle cycle when it is determined that the step (c) is performed in the second tone space mode in step (b2).

5. (Original) The method of claim 1, wherein in step (a) whether or not the two stations are capable of supporting the second tone space is found by exchanging messages, and capability information is transmitted through a non-standard information field.

6. (Original) The method of claim 1, wherein the two stations are a modem at an optical network unit and a modem at a remote terminal, respectively.

7. (Currently Amended) A system supporting an initializing method for a Very high bit rate Digital Subscriber Line (VDSL), the system having two stations, each of which performs:

a handshaking step for exchanging basic, required information between the two stations in a first tone space mode having a first frequency;

a switching step for switching from the first tone space mode to a second tone space mode having a second frequency different from the first frequency by detecting a loop, if it is determined that the station supports the second tone space mode; and

an actual initialization step for exchanging information actually needed in data VDSL communications between the two stations in the second tone space mode when switched to the second tone space mode.

8. (Currently Amended) ~~The system of claim 7,~~ A system supporting an initializing method for a Very high bit rate Digital Subscriber Line (VDSL), the system having two stations, each of which performs:

a handshaking step for exchanging basic, required information between the two stations in a first tone space mode;

a switching step for switching from the first tone space mode to a second tone space mode by detecting a loop, if it is determined that the station supports the second tone space mode; and

an actual initialization step for exchanging information actually needed in data communications between the two stations in the second tone space mode when switched to the second tone space mode.

wherein the switching step comprises:

each station receiving a signal the other station, using signals substantially identical to signals used in the actual initialization step, and at substantially the same time detecting the loop; and

each station performing final negotiation for determining whether or not the actual initialization step is to be performed in the second tone space mode, according to the result of the loop detection.

9. (Previously Presented) The system of claim 8, wherein the result of the loop detection is obtained by each station, based on the level of Power Spectral Density (PSD) of a signal which is received in a high frequency band transmitted from the other station.

10. (Original) The system of claim 7, wherein in the handshaking step, whether or not the two stations are capable of supporting the second tone space is

found by exchanging messages, and capability information is transmitted through a non-standard information field.

11. (Original) The system of claim 7, wherein the two stations are a modem at an optical network unit and a modem at a remote terminal, respectively.